Responses to Comments
Draft Lower Boise River
Total Maximum Daily Load (TMDL) Allocation Document

DEQ Boise Regional Office
12/18/98

Introduction

The Draft Lower Boise River TMDL document was available for public comment from its first announcement in Treasure Valley newspapers on Sunday, September 13, 1998, through November 13, 1998. DEQ presented the TMDL to the public for questions on October 1, 1998. Many excellent comments were received from a variety of interested parties throughout the Treasure Valley that have proved helpful for preparing the final TMDL that will be submitted to the US Environmental Protection Agency for approval. The following text summarizes the comments that were received, provides responses to individual comments, and summarizes the items that DEQ changed or clarified to prepare the final Lower Boise River TMDL document.

Log of Comments Received

Total Number of Comment Letters Received: 17

Agencies

US Environmental Protection Agency
Idaho Department of Fish and Game

Agricultural and Drainage

Idaho Farm Bureau Federation
Ada County Drainage District Number Three, represented by Elam & Burke
Nampa Meridian Irrigation District, with 11 partners: Pioneer Irrigation District, Middleton Irrigation District, Drainage District No. 2, Boise Valley Irrigation Ditch Company, Farmers Union Canal Company, City of Eagle, City of Middleton, City of Notus, City of Star, Star Water and Sewer District, Idaho Water Users Association, represented by Ringert Clark
Idaho Water Users Association

Industry

ConAgra, Inc., represented by Thompson and Ashcraft, L.L.P.
Idaho Power Company

Municipalities

Boise City Public Works
Boise Municipal Storm Water NPDES permit co-applicants

City of Caldwell, Office of the City Engineer and Public Works Director
City of Nampa Public Works Department

Environmental

Idaho Conservation League
Idaho Rivers United
Trout Unlimited, Ted Trueblood Chapter

Other Parties

Lower Boise River Watershed Advisory Group
Denyce M. Verti

Format:

All comments are either quoted or summarized below. *DEQ responses are shown in italics.*

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United States Environmental Protection Agency

Comment, paragraph 2, page one, "EPA has not reached a resolution regarding whether flow alteration is a pollutant under S303(d) of the Clean Water Act.

DEQ does not recognize the need to develop a TMDL for flow alteration in the lower Boise River until the EPA Administrator has specifically identified that flow alteration is a pollutant that requires the development of load allocations.

Comment, page 2, Sub-basin Assessment: 'The SBA would be more complete if sections were added describing vegetation and riparian conditions in the Lower Boise River Subbasin.

DEQ believes that the background information included in the TMDL is more than sufficient to characterize the subbasin with respect to the specific issues addressed by the TMDL.

Bacteria

Comment, page 2, Bacteria: "Will the Load Allocations for the tributaries be implemented in the Lower Boise River TMDL or in the tributary TMDLs?"

The bacteria load allocations must be implemented as a part of the implementation plan, to be developed within 18 months of the approval date of the lower Boise River TMDL.

Comment, page 2, Bacteria: "We are not clear why facilities on tributaries (e.g. Nampa) are included in the WLA table, ..."

Since the bacteria waste load allocations that have been presented will meet waster state water quality criteria and are identical to current Draft Final NPDES permit requirements, DEQ views the fecal coliform bacteria waste load allocations as a non-issue for EPA.

Comment, page 2, Bacteria: "Please clarify whether the column titled "Fecal Coliform Permit Limits" is intended to be the WLA's for these facilities.

Yes, the column with that title is intended to be the WLA's for these facilities. Please note that the requirements specified within that column match the numeric limits established in the Draft Final NPDES Permits for these facilities.

Comment, page 2, Bacteria: "The IDFG fish hatchery is identified as a point source which does not need a WLA. Please clarify whether they discharge fecal coliforms."

Fecal coliform habitats include the intestinal tracts of warm blooded mammals, water, soil, and plants, but not fish. The IDFG hatcheries on Eagle Island and in Nampa are not sources of fecal coliform bacteria, and as is appropriate, do not have NPDES permit limitations for fecal coliforms.

Comment, page 2, Bacteria: "Margin of Safety. Since the 50 CFU/100 ml geometric mean target is an applicable criteria [sic] in the Boise River from May 1 to September 30, please provide further explanation as to why it is a margin of safety."

DEQ has clarified the bacteria load allocations, and further clarified the margin of safety relative to the criteria.

Phosphorus

Comment, page one, bullet one under Major Issues, and page 3, Total Phosphorus: "The phosphorus TMDL which relies upon no net increase (NNI) of phosphorus does not meet the requirements of a TMDL because it does not ensure that water quality standards will be met in the Boise River, and because it lacks required TMDL elements.

DEQ concurs with the assessment that the total phosphorus load allocations as presented in the Draft Lower Boise River TMDL do not constitute a TMDL, and has withdrawn all load and waste load allocations for total phosphorus from the document. DEQ believes that establishing a firm no net increase requirement for sources of total phosphorus in the lower Boise River Watershed is necessary, and will apply its No Net Increase Rule (IDAPA 16.01.02.054.04 and .05) to the Boise River until appropriate phosphorus load and waste load allocations can be developed for the river. A schedule change will be put in place to make the nutrient TMDLs for the lower Boise River concurrent with the lower Snake River and Brownlee Reservoir TMDLs.

Comment, page 3, "We suggest also citing other nutrient related water quality standards, including IDAPA 16.01.02.200.05 and .07 regarding floating and submerged material and oxygen demanding materials respectively."

The Applicable Water Quality Criteria portion of the TMDL cites all of the criteria that are relevant to the evaluation of the listed and allocatable pollutants in the four segments of the Boise River covered by the Draft TMDL document.

Comment, page 3, "In the Lucky Peak Dam to Veteran's State Park reach, Idaho standards list DO criteria as 90% rather than 75% saturation for salmonid spawning. How many measurements were taken in this reach and what % were below 90% saturation? Would your conclusions be the same.

Please find below a complete review and display of all of the data used to evaluate dissolved oxygen in the Boise River and demonstrate that cold water biota and salmonid spawning uses are not impaired by dissolved oxygen. Please note that percent saturation values for dissolved oxygen apply only during the following time periods at the locations noted:

Lucky Peak to Veterans Park	*October 15 to July 15, 90% of saturation*
Veteran's Park to Star	*October 15 to July 15, 75% of saturation*
Star to the mouth (whitefish only)	*October 15 to March 15, 75% of saturation*

DEQ presents this information to clarify the following points:

1. *In the data from the USGS synoptic monitoring program shown in Table 1, the USGS diurnal monitoring shown in Table 2, below, Boise City quarterly monitoring, and over 1200 measurements by the City of Meridian, NONE of the dissolved concentrations are less than 6 mg/l.*

Table 1. USGS Synoptic monitoring program dissolved oxygen data
Note that NONE of these values, in terms of concentration and saturation, violate state water quality standards

Site	Dates	n	DO min mg/l	DO avg mg/l	DO max mg/l	%Sat min	%Sat avg	%Sat max
Diversion Dam	11/3/93 - 8/17/98	32	9.1	11.6	14.0	100	110	145
Glenwood	11/2/92- 9/18/98	51	8.4	11.3	15.4	95	112	152
Middleton	11/13/91- 8/18/98	38	7.6	11.3	14.1	85*	111	145
Parma	11/12/86- 8/18/98	71	6.4	10.5	17.3	77**	105	161

**Only one value below 90% of saturation, which does not coincide with the salmonid spawning season of October 15 to March 15 for this reach and thus does not violate state standards.*

***Six values below 90% saturation, only one within that spawning season, and that value is greater than the 75% saturation requirement applicable to Parma.*

2. *In the reach of the river from Lucky Peak to Veteran's Park, all of the dissolved oxygen data used to support the TMDL are greater than 6.0 mg/l. Of the data at Diversion Dam, none have percent saturations less than 90. At Veteran's Parkway Bridge, 4 dissolved measurements from Boise City quarterly monitoring have*

concentrations greater than 6 mg/l, but percent saturations less than 90%, calculated as 84%, 80%, 73%, and 70%. The City of Boise recorded three salmonid spawning season dissolved oxygen saturations that were less than 75% at Eagle Bridge, but none of the concentrations were less than 6.9 mg/l.

The City of Meridian collects dissolved oxygen data in the South Channel of the Boise River near Linder Road. From April 1992 to December, 1996, the city collected 1256 measurements of dissolved oxygen, NONE of which were less than 6.8 mg/l dissolved oxygen. Nine (seven tenths of one percent of the total number of measurements) of the measurements had percent saturations that were less than 75%, all of which occurred during the applicable salmonid spawning time period. The nine values less than 75% of saturation ranged from 67% to 74%. The summary statistics on the Meridian dissolved oxygen data are as follows:

City of Meridian Linder Road Data
n = 1256 measurements from April, 1992 through December, 1996

Statistic	*DO, mg/l*	*% Sat*
min	*6.8*	*67*
Avg	*10.5*	*97*
MAX	*16.4*	*142*

Because all of the concentrations measured are well above 6 mg/l, and so few of the saturations are less than 75%, these data do not demonstrate impairment to aquatic life in the lower Boise River.

Table 2. Summer Diurnal Dissolved Oxygen Data Statistics

All data were collected by the USGS over 24 hour periods during August and September of 1997

Site	Dates	n	DO min mg/l	DO avg mg/l	DO max mg/l	%Sat min	%Sat avg	%Sat max
Eckert Road	8/21/97 8/22/97	12	9.01	9.37	9.81	100.3	105.9	115.7
Glenwood	8/21/97 8/22/97	13	8.25	8.78	9.58	92.0	99.9	115.4
Middleton	8/28/97 8/29/97	12	6.40	7.50	8.85	73.2	87.3	105.6
Caldwell	8/28/97 8/29/97	12	7.65	8.32	9.29	87.5	97.3	110.9

Parma	9/4/97 9/5/97	12	7.08	7.98	9.30	78.8	90.2	103.5

Note that all of these measurement were collected during August and early September, to evaluate diurnal dissolved oxygen conditions during hot months of the summer. The criterion applicable to the dates when these data were collected is that dissolved oxygen must be >6 mg/l to support cold water biota (these data are not within spawning time periods), and indeed all of the diurnal measurements meet that criterion. In fact, the minimum of all of the diurnal measurements shown in Table 2 is 6.40 mg/l, and none of the 24 hour averages was less than 7.50 mg/l. ***These data support the finding that dissolved oxygen is not a cause of impairment for aquatic life uses in the Boise River.***

Comment, Total Phosphorus, page 3, "Table 12. It would be helpful to expand this table to show each of the point source dischargers to the Boise River or tributaries, including the water they discharge to, even though phosphorus data may not be available for many of them."

The phosphorus load and waste load allocations specified in table 12 have been removed from the document in response to EPA's contention that the draft language for total phosphorus does not have the minimum elements of a TMDL.

Comment, Total Phosphorus, page 3, "Please explain (or reference) the basis for the saying that phosphorus shows the best correlation with periphytic growth."

The reference for the statement is a report on the control of periphyton in the Clark Fork River with the following bibliographic information:

Dodds, Walter, K., and Val H. Smith, Managing excess chlorophyll levels in the Clark Fork River with nutrient controls, A Report Presented to the Montana Department of Health and Environmental Sciences, February 10, 1995, Revised April 1, 1995. "Our analyses reveal that both total N and P are much more closely related to biomass than are dissolved inorganic nutrients. We used three complementary approaches to predict the in stream TN and TP concentrations that should correspond to improved water quality in the Clark Fork..." page 5, item 3.

The report indicates that for periphyton growth in the Clark Fork River, the authors found that the best correlation between periphytic biomass and nutrient species was with total nitrogen and phosphorus, rather than dissolved species.

Comment, Total Phosphorus, page 3, "Please explain (or reference) the basis for choosing 1996 as a baseline year for no net increase."

The appropriate year for the total phosphorus baselines is 1996, for three reasons:

- *The state's no net increase rule became effective on December 1, 1996.*
- *Source load conditions: phosphorus loads from tributaries in 1996 represent typical, long term irrigation season flows, while treatment plants loads in 1996 represent current treatment technologies and operating conditions.*
- *The Watershed Advisory Group for the lower Boise River recommended that DEQ utilize 1996 as the baseline year for the phosphorus no net increase.*

Comment, Temperature, page 3, "No allocations, in stream temperature reduction targets or shading targets were identified for Lower Boise River. Therefore it does not meet a fundamental requirement of a TMDL, which is to achieve water quality standards, and would not be approvable by EPA."

DEQ's analysis demonstrates that the temperature conditions within the lower Boise River are the result of climatic conditions in the Treasure Valley, and are not controllable through load allocations in a TMDL. No TMDL will be developed for temperature on the lower Boise River.

Comment, Sediment, page 4, "We are concerned that the 50 and 80 mg/l TSS targets are not adequately protective of salmonid spawning uses, and early life stages of salmonids and non-salmonids."

The 50 and 80 mg/l targets developed in the TMDL are the appropriate criteria to protect aquatic life uses in the lower Boise River with respect to total suspended sediments.

Comment, Sediment, page 4, Table 15 needs a column heading that is more clear with respect to the waste load allocations.

DEQ will edit the column headings.

Comment, Sediment, page 4, The draft final permit for the West Boise WWTP plant will include a design flow of 24 MGD, which should be incorporated into the TMDL. The waste load allocations for total suspended solids for West Boise should be adjusted accordingly.

DEQ will modify the waste load allocation table entries for the West Boise treatment plant.

Comment, Sediment, page 4, "It is not clear whether the current permit limits for sand and gravel operations are being set as WLA's for these facilities."

The NPDES permits issued by the Environmental Protection Agency for sand and gravel operations specify a strict non-discharge requirement for all operational activities. Storm water runoff from these facilities is the only permitted discharge of water, and is required to meet concentration limits for total suspended sediments that are less than the criteria developed for the Boise River by DEQ. DEQ supports the EPA's approach to sand and gravel operations, and believes that EPA's approach to performance based permits for storm water discharge is also sound. The TMDL cannot issue waste load allocations for sand and gravel, since those facilities are already required to have NO operational discharge and because performance based permitting is the appropriate method for controlling storm water runoff. Waste load allocations would contradict the non-discharge requirements already in place.

Comment, Sediment, page 4, "How was the quantity of the reserved TSS load established? How does it relate to the load capacity? How will the reserve amount for each facility be incorporated into NPDES permits?

The reserve quantity of total suspended solids is based upon the projected growth in flow of each treatment plant over the next 20 years, and the permitted concentration limits for TSS for each facility. Thus, the reserve for a facility, in tons per day, is calculated as:

*(20 year build out flow - Draft Final permit design flow) * [TSS] Limit * Units conversion*

Where:

20 year build out flow	*= expected 20 year build out flow, in million gallons per day (MGD)*
Draft Final permit design flow	*= design flow in permit to be issued, MGD*
[TSS] Limit	*= permit limit for total suspended solids concentration, mg/l*
Units Conversion	*= 1.547 * 5.4 / 2000 to yield tons per day*

Comment, Sediment, page 4, EPA suggests additional clarification of how the load allocations, waste load allocations, and the reserve for growth combine with respect to the target criteria and load capacity for total suspended sediment.

DEQ will expand discussion of these topics within the TMDL document.

Comment, Sediment, page 4, "Please show how reduction targets were derived."

DEQ will expand discussion of the derivation of reduction targets.

Comment, Reasonable Assurance, p 5, "...please provide additional detail regarding the types of BMPs expected to be implemented, and pollutants they are expected to address."

The selection of best management practices will be accomplished in the implementation

planning process, which follows within 18 months of the approval of this TMDL. Many agencies such as the NRCS, the SCC, and the Soil Conservation Districts will participate in the selection of BMPs.

Idaho Department of Fish and Game

Comments, Biological Characteristics section of the TMDL, p 1: The Department of Fish and Game suggested several factual modifications to the portion of the TMDL that describes the biological characteristics of the watershed.

DEQ will incorporate the suggested changes and additions into the document.

Comment, Fisheries, Distribution and Presence, p.1: The Department of Fish and Game suggested more direct language to describe the fact that natural reproduction of trout stocks is in sufficient to sustain populations, and the extent of the trout stocking program.

DEQ will incorporate the suggested change into the document.

Comment, page 1: DEQ should address habitat improvement in the TMDL.

Habitat improvements are not allocatable pollutants that can be included in TMDL allocations. However, DEQ supports any efforts that may develop outside of the TMDL to create or improve aquatic habitat within the Boise River or its natural tributaries. DEQ expects that the sediment load allocations in the TMDL will provide some level of benefit to the stream substrate.

Comment, p. 2: DEQ should address wildlife habitat in the TMDL.

Like the aquatic habitat improvements, noted in the previous comment, wildlife habitat is not an allocatable pollutant in TMDL allocations.

Idaho Power Company

Comment, p 1, "IPC believes that DEQ's recommendation to reduce suspended sediment levels with no commensurate reduction in levels of biologically available phosphorus risks further degradation of water quality in the Boise River, the Snake River, and Brownlee Reservoir.

DEQ believes that establishing a firm no net increase requirement for sources of total phosphorus in the lower Boise River Watershed is necessary, and will apply its No Net Increase Rule (IDAPA 16.01.02.054.04 and .05) to the Boise River until appropriate phosphorus load and waste load allocations can be developed for the river. As sediment loads are reduced, phosphorus loads may also decline, since sediment attached phosphorus will be removed.

Comment, p 1, "Specifically DEQ proposes that high sediment levels are currently limiting algae growth in the Boise River."

DEQ agrees that sediment is one of the factors that affects productivity in the Boise River, but notes that other factors such as flow velocity and substrate characteristics also affect productivity.

ConAgra, Inc. / Armour Fresh Meats, Inc.

Comment, p. 1, Armour requests that the TMDL note the fact that the company collects water quality data on a regular basis as a part of its NPDES permit.

DEQ will make that addition to the document.

Comment, p. 1, Armour requests the addition of "pursuant to NPDES permits." be added to page 54, paragraph 1, line 1 of the Draft Lower Boise River TMDL.

DEQ will make that addition to the document.

Comment, p. 1, The flows for the Armour facility listed in Table 15 of the Draft TMDL should be listed as 0.416 MGD on a daily average basis and 0.475 MGD as the design flow.

Noted and corrected.

Comment, p. 2, Table 16 in the Draft TMDL contains incorrect information related to Armour's existing total suspended solids loads. The table should include a 1996 annual average flow of 0.354 MGD, a 1996 annual average TSS concentration of 17.9 mg/l, and a 1996 existing TSS load of 0.027 tons per day.

Noted and corrected.

Comment, p 2., "Currently only municipalities are provided TSS reserve growth in Table 17. Armour requests an allocation of reserve growth."

Municipal waste water flows are expected to increase over time as the population of the Treasure Valley grows and sanitary sewer connections increase. Since TSS concentration limits in NPDES permits and the expected growth in municipal flows can be accommodated in the TSS load allocations without exceeding TSS target criteria, reserve TSS loads for municipal effluents is appropriate. Armour must demonstrate a reasonable expectation of significant growth in waste water flow through its treatment system in order to be considered for a reserved TSS load in the TMDL.

City of Boise Public Works Department

Comment, p. 2, "...recognition that new bacteria criteria are anticipated in 1999 which would result in a change of reduction goals, monitoring requirements, TMDL targets;"

DEQ will include language in the TMDL to indicate that the overall goal of the bacteria allocations is to ensure that bacterial counts are within state criteria to protect contact recreation uses of the Boise River. If the state adopts criteria for E. Coli in place of the existing Fecal Coliform criteria, the TMDL bacteria allocations should still protect contact recreation using the new criteria to judge compliance.

Comment, p. 2, "..high flow off ramp for sediment TMDL and consideration for high flows for other TMDLs or NNI programs;"

DEQ will not include high flow off-ramps for any of the allocations in the TMDL. The 60 day duration associated with the 50 mg/l suspended sediment target should be sufficient to account for high flow conditions.

Comment, p. 2, "..monitoring plan in the NNI approach for determination of nonpoint sources with the NNI requirements for nutrients;"

The total phosphorus allocations of the draft TMDL have been removed, and nutrient loads from nonpoint sources are no longer germane to the document.

Comment, p. 2, "...existing Eagle and Nampa Fish Hatchery nutrient data and associated no net increase requirements;"

The total phosphorus allocations of the draft TMDL have been removed, and nutrient loads from nonpoint sources are no longer germane to the document.

Comment, p. 2, The City requests a more robust discussion of options that are available for meeting TMDL goals.

The discussion of ways in which the TMDL goals can be achieved will be developed in the implementation plan, which will follow the approval of the TMDL.

Comment, p. 3, "Identification of the significant stakeholder and public involvement in the development of the draft lower Boise TMDL;"

DEQ recognizes the tremendous number of hours given by all of the stakeholders,

advisory group members, cooperating agencies, and members of the public in the TMDL development process. The development of an accurate, thorough, and effective TMDL would not have been possible without the assistance of all of the people who have been involved. DEQ staff are especially appreciative of the thoughtful technical, policy, and "on the ground" information provided all of the people involved in TMDL development.

Comment, p. 3, Discuss the elements of the implementation plan in the TMDL document.

All implementation planning will be developed separately from the TMDL document, which remains focused on assessment, analysis, and allocation.

Comment, p. 3, Clarify that the proposed no net increase approach for nutrients is not a TMDL.

The total phosphorus load allocations have been removed from the Boise TMDL, and will be replaced by an application of the "no net increase" rule specified in the State of Idaho Water Quality and Waste Water Treatment Requirements rules, IDAPA 16.01.02.054.04 and .05 TMDLs for nutrients in the lower Boise River will be developed concurrently with the lower Snake River and Brownlee Reservoir TMDLs.

Comment, p. 3, Clarify the language related to the need for additional point source controls contained within the reasonable assurance section of the Draft TMDL on page 54.

The language included on page 54 of the Draft TMDL is based upon United States Environmental Protection Agency, Guidance for Water Quality Based Decisions: The TMDL Process, EPA 440/4-91-001, page 24, "State or Local Process for Nonpoint Sources".

Comment, page 4, Specific Comment 1, "No Nutrient Water Quality Impairment, therefore No Nutrient TMDL is proposed or required."

DEQ emphasizes the fact that although chlorophyll-a measurements from the water column of the Boise River are not indicative of excessive suspended algae growth, many of the periphyton (attached) algae growth measurements made at Middleton and Caldwell are greater than nuisance thresholds in literature. The periphytic algae measurements need to be evaluated further to determine whether or not they constitute an impairment to beneficial uses in the Boise River. The portion of the comment related to the development of a phosphorus TMDL is addressed by the fact that the total phosphorus allocations have been removed from the TMDL.

Comment 1a., page 5, Eliminate no net increase checkpoints for total phosphorus.

The total phosphorus allocations and checkpoints have been removed from the TMDL. DEQ will develop an appropriate application of the state's no net increase rule with respect to total phosphorus.

Comment 1c., page 6, No Net Increase baseline determination.

DEQ concurs with the City of Boise's statement on page 5 of the comment letter, "The spirit of the NNI policy is met with limitations on loadings to 1996 baseline levels." The baseline loads for treatment plants and tributaries developed as a part of the Draft TMDL are representative of 1996 conditions, and are entirely appropriate for an application of the state's no net increase rule. The 1996 baseline loads and the methodology used to develop them have been reviewed by stakeholders and have been available for a 60 day public comment period. DEQ considers the development of baseline total phosphorus loads complete and closed.

Comment 1d., page 7, Undefined point source allocations

DEQ agrees that point sources not identified in the Draft TMDL that may be sources of phosphorus should be included in the development of an application of the state's no net increase rule.

Comment 1e., page 7, Innovative water quality mechanisms needed

DEQ supports innovative ideas that can provided a least cost pathway to improve water quality in the Boise River and meet the goals of the TMDL. Detailed descriptions of innovative techniques, such as effluent trading, are best developed in the implementation plan for the TMDL, as well as in other stand alone documents.

Comment 2, page 7 The right TMDL target is identified for the wrong reason. "Total phosphorus is identified as the appropriate form of phosphorus for a nutrient TMDL target. However, the Draft TMDL states that total phosphorus is important 'since total phosphorus has the best correlation with periphytic algae growth'." We feel that this is the wrong reason..."

DEQ refers the City to the response provided for Specific Comment 1, from page 4, in which the periphytic algae data from selected sites and sampling runs in the Boise are noted to be greater than literature thresholds for nuisance aquatic growth.

Comment, Specific Comment 3, No dissolved oxygen impairments

Noted.

Comment, Specific Comment 4, Brownlee and Lower Snake River TMDLs. "Future development of TMDLs for nutrients in Brownlee Reservoir and the lower Snake River may require reductions in phosphorus loads from upstream tributaries, including the Lower Boise River."

Noted, DEQ concurs.

Comment, Specific Comment 5, Scientific basis for TMDLs must be sound. The City of Boise expresses concern that the standards and protocols for data collection by the Idaho Power Company have not been fully evaluated. The City suggests that the validity and accuracy of the data used for TMDL development need to be assured.

DEQ agrees that data need to be valid and accurate. The water quality data collected by the Idaho Power Company that have been available for review by the public through technical presentations are collected using well established and appropriate methodologies. Idaho Power data collected on the lower Snake River and Brownlee Reservoir, again as presented to public forums such as the lower Boise River Technical Committee, are analyzed by established, reputable laboratories.

Comment, Specific Comment 6, page 9, More data and analysis required

DEQ agrees that additional data and analyses may be needed to develop phosphorus TMDLs on the lower Snake River and Brownlee Reservoir, and notes that those items are beyond the scope of the Boise River TMDL document. DEQ notes that the City is incorrect in its suggestion that phosphorus load allocations presented in the Draft TMDL were based upon 1992 flows and 1996 water quality data. In fact, total phosphorus wasteload allocations were based entirely upon 1996 flows and water quality data, as appropriate for establishing 1996 baseline for treatment plants. Tributary load allocations used 1996 flow data, and established phosphorus models based on the available record of total phosphorus measurements (since the operational changes common to treatment plants are not applicable to the tributaries).

Comment, Specific Comment 7, page 9, Numeric phosphorus targets or criteria.

The total phosphorus concentrations presented in the EPA Gold Book for flowing waters and flowing waters entering lakes or reservoirs are guidelines, and the TMDL will reference those values as such.

Comment, Specific Comment 8, page 10, Clarify discussion on nutrients and nuisance aquatic algal growth.

The descriptions of nutrients and nuisance aquatic growth in the TMDL are descriptive and appropriate for the document.

Comment, Specific Comment 9, page 11, Stakeholder Involvement

Noted. Again, DEQ expresses appreciation to the tremendous number of hours of service provided by all of the stakeholders involved in the TMDL development process.

Comment, Specific Comment 10, page 11, Implementation

Implementation issues will be fully described and developed in the implementation plan that will follow the approval of the lower Boise River TMDL.

Comment, Specific Comment 11, page 12, Reasonable Assurance

The language included on page 54 of the Draft TMDL is based upon United States Environmental Protection Agency, Guidance for Water Quality Based Decisions: The TMDL Process, EPA 440/4-91-001, page 24, "State or Local Process for Nonpoint Sources".

Comment, Specific Comment 12, page 13, Temperature TMDL "The Draft TMDL contains a "TMDL" for temperature.

The Draft TMDL does not develop load or waste load allocations for temperature, and thus is clearly not a TMDL for temperature. DEQ notes that the last bullet under general comment 2 on page 2 of the Boise City comments correctly states "No TMDL for nutrients and temperature" (emphasis added).

Comment, Specific Comment 13, page 13, Other Stressors

DEQ encourages voluntary, innovative actions that can provide improvements to the available habitat for aquatic biota in the Boise River. Habitat improvements can be developed outside of the TMDL document in the implementation planning process. In regard to the suggestion that such activities should be credited to offset other pollutants, DEQ does not believe that a habitat improvement can be used to offset water quality based pollutant limitations required by NPDES permits, waste load allocations, or load allocations.

Comment, Specific Comment 14, page 13, Status of Aquatic Life Uses in the Lower Boise River "The table contains an "existing use" column that suggest cold water biota and salmonid spawning are "existing uses" from Lucky Peak Dam to the Snake River..."

DEQ reiterates that cold water biota and salmonid spawning uses are existing uses in the lower Boise River from Lucky Peak to the mouth of the Boise River. Fish sampled by the US Geological Survey and the Idaho Department of Fish and Game clearly show that salmonids such as brown trout and rainbow trout inhabit the Boise River from Lucky Peak Dam to Star Diversion. Another salmonid, mountain whitefish clearly maintains naturally reproduced populations throughout the river from Lucky Peak to the Snake River.

Comment, Specific Comment 15, page 14, Municipal Access to Sediment "Reserve for Growth Allocation. "The city strongly supports the proposed approach concerning access to the 20 year TSS 'reserve for growth' for municipalities."

Noted.

Boise Municipal Storm Water NPDES Permit Co-applicants

Comment, paragraph 4, page 56, The co-applicants want clarification regarding reasonable assurance and BMPs. The clarification would state, "There are actually 33 Best Management Practices (BMPs) in Boise City's Storm Water Management Plan. Nine of the BMPs are specifically targeted at sediment control. Also, ACHD's Storm Water Management Plan has a total of 28 BMPs, 12 of which target sediment Control."

Noted and corrected.

Comment, "The co-applicants would also like Idaho Transportation Department-District 3, Boise State University, and Ada County Drainage, District No. 3 recognized as co-applicants for the Boise Municipal Storm Water NPDES permit."

Noted and corrected.

Comment, paragraph 2, page 60, "The co-applicants for the Boise Storm Water NPDES Permit have not yet received a permit from EPA. The activities in this permit will only affect the Boise City area of impact. Also, the proposed treatment standard of 80% removal of total suspended solids is only a proposal at this time. Boise City must still go through a formal public review process before this requirement goes into effect." The co-applicants request further clarification...

Noted and clarified.

Comment, page 72, "The TMDL does not discuss how the area upstream of the three named drains will be addressed by the no net increase (NNI) allocation. The phosphorus NNI allocation of the TMDL discusses checkpoints (Middleton and Parma) to ensure NNI. The co-applicants suggest the use of a checkpoint at Glenwood Bridge to ensure compliance of the sediment NNI upstream of the three named tributaries."

Noted.

City of Caldwell

Comment, page 7, figure 3, "Mason Creek is shown as a point of diversion, but should be shown as a tributary of the Boise River."

Noted and corrected.

Comment, page 54, paragraph 4, last sentence, "The City of Caldwell feels that limiting regulatory authority for enforcing load reductions to "existing regulatory...programs" is inappropriate. If regulatory authority does not exist for enforcing the load reductions, then it should be developed. For most pollutants of concern in this TMDL, point sources do not discharge sufficient quantities to achieve water quality standards by applying enforcement to them alone."

The language included on page 54 of the Draft TMDL is based upon United States Environmental Protection Agency, Guidance for Water Quality Based Decisions: The TMDL Process, EPA 440/4-91-001, page 24, "State or Local Process for Nonpoint Sources".

Comment, page 55, paragraph 1, last sentence, "It is the opinion of the City of Caldwell that this implementation plan should be subject to public comment and input from the affected parties after its completion. It is the experience of the City that those who prepare implementation plans, occasionally have poor conceptions of a plan's true viability."

DEQ welcomes public involvement in the development process for the implementation plan, but will not provide a formal public comment period for the implementation plan.

Comment, page 65, table 17, "Caldwell's peak monthly flow growth is listed as 2.82 MGD, with an allocated suspended sediment reserve of 0.35 tons per day. In the City of Caldwell Facility Plan, completed in May 1997 and approved by DEQ, the flow growth rate is computed to be 2.84 MGD which generates an allocated reserve of .36 tons per day. The City recognizes that these differences are relatively minor, but we request they be corrected."

Noted and corrected.

Comment, page 66, last paragraph, "A list is provided for methods of achieving the load allocations proposed in the TMDL. The City notes that "relocation of points of diversion" is a significant method that has been left off the list. The City requests it be included."

DEQ does not advocate the relocation of water supply diversion points within the Boise

River watershed as a method for achieving load or waste load allocation goals of the TMDL.

General Comment, suspended solid TMDL. "The larger treatment plants, including Lander St., West Boise, Meridian, Nampa and Caldwell all discharge suspended sediments at concentrations in the range of 7 to 12 mg/l. These levels are far below the State Water Quality Standard of 50 mg/l. It seems counter-productive to regulate discharges of high quality water. It is the opinion of the City that when technology based limits produce effluent better than the water quality standard, it is unnecessary to regulate them in the TMDL. The larger treatment plants should be governed only by the TSS concentration limit in their NPDES permits."

The waste load allocations presented in the TMDL are identical to permit limits in the Draft Final Permits for NPDES facilities in the Treasure Valley, and as such, do not represent additional regulatory requirements for treatment plants.

General Comment, the bacteria TMDL. "The NPDES Permit limits already control discharges to meet the State Water Quality Standard for fecal coliform bacteria. It is unnecessary to further regulate treatment plant's meeting State Water Quality Standards."

The waste load allocations presented in the TMDL are identical to permit limits in the Draft Final Permits for NPDES facilities in the Treasure Valley, and as such, do not represent additional regulatory requirements for treatment plants.

General Comment, phosphorous TMDL, "The City recognizes that the Phosphorous TMDL is created with the purpose of complying with the "no-net increase" rule in the State regulations. 1996 was arbitrarily selected as a baseline year for application of the "no-net increase" strategy."

DEQ believes that 1996 is the appropriate year to use for the development of no net increase baseline allocations for total phosphorus, but accept's Caldwell's request that reductions made prior to 1996 should be credited toward the baseline. DEQ believes that Caldwell's specific actions to generate phosphorus load reductions from a large influent source, completed prior to the start of calendar year 1996, should be incorporated into the baseline phosphorus allocation for Caldwell.

City of Nampa

Comment, map on figure 2, should include Lake Lowell.

Noted and corrected.

Comment, figure 3, the direction of the arrow on Mason Creek is reversed.

Noted and corrected.

Comment, table 5, The information doesn't match the narrative of the previous page relative the sampling by USGS.

In table 5, DEQ listed only the mainstem river sites sampled by the USGS for the sake of simplicity and to save space.

Comment, page 54, first paragraph, last sentence, Question whether the non point sources can have enough reduction to meet the sediment and bacteria criteria and according to this sentence the point sources would be required to make further reductions. This seems to be different than is found in the allocation sections later in the document and I doubt that any significant good can be achieved by further reductions by the point sources given their relative contributions.

The language included on page 54 of the Draft TMDL is based upon United States Environmental Protection Agency, Guidance for Water Quality Based Decisions: The TMDL Process, EPA 440/4-91-001, page 24, "State or Local Process for Nonpoint Sources".

Comment, Question if the goals for bacteria reduction are actually technically feasible given the nature of agriculture and the plumbing of the Boise River. Are there any examples of a similar watersheds that successfully met such high reductions.

DEQ believes that a bacteria load and waste load allocations can be met through planned and concerted implementation efforts. Significant progress with respect to bacteria has already been made in the Treasure Valley, and can be continued.

Comment, "If this document is adopted and reasonable improvements are made and the goals can not be fully met, is there a process whereby we can say 'this is as good as it can get?'"

Noted. TMDLs can be revised if appropriate.

Comment, "A short statement that nearly all flow from Indian Creek is diverted for irrigation just prior to the Boise River during the irrigation season would be a helpful piece of information to include if future waste load allocations became seasonal or annual in nature."

Noted.

Ada County Drainage District No. 3

Comment, "According to the Report, the District has a typical existing load allocation in 1995 of 0.35 tons per day. This is the level to be achieved under the recommendations of the Report. Apparently, the no net increase standard imposed for the three drains upstream of Middleton was established since the loads from those tributaries represent only 2% of the total allocation for the suspended sediments. I would point out that as of that amount of load attributable to those three drains, the portion attributable to District #3 is less than one third of the total amount. Consequently, the impact of any sediment load from the District is negligible at best."

DEQ concurs, and will recommend in the final TMDL that the sediment loads from the district be managed in a manner similar to those of the other lands that will fall within the purview of the pending MS4 NPDES permit for Boise municipal storm water.

Comment, The District questions the assumptions made concerning the discharge loads.

The load assigned to Drainage District #3 in the Draft TMDL was an estimated value based upon data from other tributaries. As noted in the preceding comment, the load allocation to the district will be removed in place of an acknowledgment that the pending MS4 permit will provide adequate suspended sediment controls for the drainages within the boundaries of District #3.

Comment, "The District does not generate any sediment in and of itself. ... The District can only assume that the facility which has been identified as a sediment producer is the facility that discharges into the Boise River at Ann Morrison Park. The District requests confirmation on the specific location referenced in the report."

Comment, "The Report identifies a monitoring location below Barber Dam and below Eckert Road. Knowing the exact location of that monitoring station would be very helpful to the District as the District's geographical jurisdiction begins at that point..."

Location

Comment, Task Order No. 8, page 21, Another important result of the sensitivity analyses is that TSS sources upstream of Middleton have very little, perhaps negligible, effect on loads and needed reductions in the river downstream of Middleton.

Noted.

Comment, Appendix G, pages 30-31, Is the sediment load attributable to the District for one drain

which discharges directly into the Boise River based upon a surrogate study and extrapolation accurate; especially given the mostly urban character of the District's facilities at this time?

Additional characterization of the sediment loads from District drainages would significantly improve upon the load in the Draft TMDL.

Comment, page 7, figure 3, the inflow and outflow of that figure may not be quite accurate as it relates to the District. I note that while the Ridenbaugh, Meeves, Bubb, Rossi Mill, and Settlers are shown as taking water out of the Boise River, the discharge back into the Boise River by the District may not be completely accurate. There are points where the Ridenbaugh, Meeves, Bubb and Rossi Mill discharge into the District's facility. As pointed out in the Report, the District was established in the early 1920's in direct response to drain excess ground water and to provide a means to return irrigation water back into the Boise River.

Noted.

Idaho Farm Bureau Federation

Comment, ...There are a number of references to agriculture non point sources contributing most of pollutants such as bacteria and we question the factualness of the statements.

> *Agricultural sources contribute significant pollutant loads to the Boise River and its tributaries, but are clearly not the only significant sources of pollutant loads. Treated effluent and storm water are also sources of various pollutants, such as suspended sediment or solids, fecal coliform bacteria, and phosphorus.*

In the bacterial category of contamination, it appears that fecal coliform should no longer be the standards for bacterial contamination, rather E. Coli should be specifically identified and typed as to its origin. We feel that sources of contamination can then be readily identified and the speculative portion of this report replaced with good scientific data on bacterial contamination.

> *The Negotiated Rulemaking committee has put forward recommendations for E. Coli criteria to replace the existing fecal coliform criteria. Should the legislature approve the E. Coli recommendations, the Idaho Water Quality and Wastewater Treatment Requirements will be updated to reflect the change. DEQ will incorporate language in the TMDL to specify that compliance with the bacteria load and waste load allocations should be judged based upon the most current state criteria for contact recreation. The lower Boise River Watershed advisory group has agreed to a pilot test of DNA typing for sources of bacteria that should help to direct implementation activities.*

Comment, page 1, "...we concur with the recommendation that the lower Boise River not be held to temperature standards of cold water biota."

> *Noted.*

Comment, page 2, "The nutrient standards included in the TMDL seem to be based upon concentrations found during flows that occurred during a severe drought year. We recommend that flow data be based upon a historical average, not diminished flow of a drought year."

> *The flow data used to generate the total phosphorus baseline loads presented in the Draft TMDL are in fact 1996 data. The irrigation season total flow during 1996 is a 71st percentile(29 percent exceeds) irrigation season, given flow data from 1984 to the present.*

Comment, page 2, with respect to total suspended sediment, "We recommend this entire section be rethought and rewritten to include a standard above 50 mg/l but probably not over 100 mg/l.

The 50 and 80 mg/l targets developed in the TMDL are the appropriate criteria to protect aquatic life uses in the lower Boise River with respect to total suspended sediments.

Idaho Conservation League

Comment, page 1, paragraph two, "Implementation planning may prove legally bound to only the problems identified in the TMDLs.

> *Implementation planning must address the load and wasteload allocations established in the TMDL. However, voluntary projects to benefit aquatic life that are not part of the TMDL can be developed and included in the plan by stakeholders. Examples might include protecting or re-vegetating riparian lands, ensuring that side channel habitat is accessible to fish in the Boise River, creating pool habitat, or ensuring that cover elements are available for fish.*

Comment, page 2, paragraph 3, "The TMDL inappropriately ignores the criteria and habitat condition needs of wild redband trout and other indigenous species."

> *The criteria established for total suspended sediments in the TMDL are protective of redband / rainbow trout, both wild and hatchery, as well as mountain whitefish. To develop the target criteria for total suspended sediments, multiple species and life stages within those species were evaluated with respect to TSS impacts. As stated in the TMDL, habitat is not an allocatable pollutant, but can be addressed through voluntary projects in the implementation plan.*

Comment, page 4, "Unfortunately, this TMDL does exceeding little to assess and address the majority of concerns dealings with physical, chemical and biological conditions of the river."

> *DEQ has performed extensive assessments of the physical, chemical, and biological conditions in the river, using data collected throughout the length of the Boise River, the mouth of each major tributary, and at waste water treatment plants. The allocatable pollutants that are impairing beneficial uses in the river have been addressed through the development of load and waste load allocations.*

Comment, page 4, "The TSS goal alone is grossly adequate [sic] to assure restoration and protection of indigenous fisheries and other aquatic life."

> *The TSS targets and allocations established by the TMDL are appropriate to protect cold water fisheries in the lower Boise River. Along with direct water column improvements that will be made by reducing suspended sediment loads, the river substrate is also likely to improve if less suspended material settles in slow moving portions of the river. DEQ agrees that it is difficult to quantify the extent to which sediment loads that enter the Boise River settle at certain flow conditions.*

Comment, page 5, TSS targets "..the supporting data inadequately make the case that these targets provide sufficient protection for the most sensitive life stages of salmonids."

The TSS targets that are incorporated into the lower Boise River TMDL are protective of aquatic life uses in the lower Boise River with respect to Total Suspended Sediments.

Comment, page 5, from Appendix G, page 19, "The TMDL asserts that "the existing turbidity standard is not protective of the aquatic life at Parma."

Prior to developing target criteria for total suspended sediment, DEQ evaluated the existing state turbidity standard as a potential surrogate measure for sediment impacts on fisheries. However, because the turbidity data and TSS data in the Boise River are not closely correlated, DEQ elected to develop TSS criteria in order to adequately protect aquatic life. The turbidity criteria of the state are important for maintaining proper light penetration and aesthetic qualities, but must be supplemented in the lower Boise River with TSS criteria designed to protect fisheries. DEQ notes that other watersheds, influenced less by the granitic Idaho batholith, may have a better correlation between turbidity and suspended sediment concentrations.

Comment, page 5, "...quantifiable substrate targets must be established."

Noted

Comment, page 6, "...DEQ has failed to consider such essential issues as floodplain development, ineffective bank stabilization projects, gravel mining, large woody debris, minimum flows, development set backs, wetlands mitigation, the decline of the cottonwood forest, etc. in the context of this TMDL."

The issues presented by the ICL in this comment are all valid, but are outside of the purview of the TMDL. Some of the issues noted can be addressed through the implementation plan or long range land use planning. Minimum flow issues can only be raised in the context of Idaho water law, and not by DEQ or the TMDL development process.

Comment, page 6, "This TMDL fails to address flow alteration on the listed reach (Lucky Peak Dam to Barber Diversion is listed for flow alteration) and in the larger context of assuring that the goals of the CWA will be met."

Flow alteration is not an allocatable pollutant under section 303(d), and cannot be included in TMDLs.

Comment, page 7, Temperature, "While DEQ acknowledges that temperature problems contribute to the impairment of cold water biota in the Boise River (p.1) and that cold water biota criteria are not being met (p. 26), not a single remedial action is described in this TMDL (see page 26)."

The Boise River near Parma does not meet cold water biota each year during June, July, and August. In very low flow, hot years, occasional temperature criteria exceedences may also be evident at Parma during May and September. For roughly nine months of most years, the Boise River is well within cold water biota water temperature criteria. The cyclical nature of the criteria exceedences points strongly to atmospheric conditions, a hypothesis that is verified by empirical analysis of daily temperature data. DEQ's analysis of temperature indicates that the strongest controls on the water temperature in the river are climatic conditions in the Treasure Valley, not anthropogenic sources. For that reason, DEQ does not recommend the development of load allocations for temperature in the TMDL.

Comment, page 8, Water column dissolved oxygen.

DEQ notes that during the applicable salmonid spawning seasons, the Boise River downstream of Veteran's Parkway is required to meet 6 mg/l dissolved oxygen, or 75% of saturation, whichever is greater, as specified in IDAPA 16.01.02.278. Please refer to the complete discussion of dissolved oxygen in the Boise River provided in response to EPA's comments on the same topic, noting that data are analyzed according to applicable salmonid spawning seasons (Rainbow trout from Veteran's Park to Star, and mountain whitefish downstream of Star Diversion.).

Comment, page 8, "We find no ammonia data presented in the TMDL."

Ammonia is not a listed pollutant for the Boise River. The data that DEQ has analyzed for ammonia, as collected by the US Geological Survey, are within applicable state criteria, and no TMDL is required for that substance.

Comment, page 8, "The 'no net increase' stance of this TMDL relative to phosphorus is inconsistent with the Clean Water Act."

DEQ recognizes that the phosphorus allocations presented in the Draft TMDL did not meet the minimum requirements for a TMDL. The allocations have been removed from the document and will be replaced by an application of the state's "no net increase" rule to total phosphorus in the lower Boise River watershed. A schedule change will be put in place to make the nutrient TMDLs for the lower Boise River concurrent with the lower

Snake River and Brownlee Reservoir TMDLs.

Comment, page 9, Failure to Protect all Water bodies. "The DEQ has inappropriately excluded several tributaries, including manmade canals, in the lower Boise River system from load allocations along their length."

The 303(d) listed tributaries to the lower Boise River will be reviewed for TMDL development in the year 2000, and a schedule change to that effect will be made.

Comment, page 9, "All Idaho waters falling under the definition of 'Waters of the United States' found in federal regulations must be included in this TMDL if they are known to be contributing to the loading of listed pollutants/pollution. Agricultural canals and drains must also be given full consideration as to the full range of existing beneficial uses and loading of listed pollutants/pollution to listed Water bodies."

Only 303(d) listed pollutants on 303(d) listed segments are evaluated for TMDL development as needed to correct beneficial use impairments. Load allocations may go to the mouth of many tributaries, as is the case in the lower Boise River TMDL.

Comment, page 10, "Data demonstrating compliance with toxics standards is not presented."

Toxics substances are not listed pollutants on the lower Boise River. However, DEQ does have data for selected metals and toxic substances in the Boise River, none of which indicate water quality problems. DEQ would be glad to discuss these data with the ICL upon your request.

Idaho Rivers United

Comment, page 2, Failure to Protect all Water bodies

The loads from all of the major tributaries to the lower Boise River receive allocations at their confluences with the Boise River for total suspended sediments and fecal coliform bacteria. Reviews of the length of the tributaries themselves will be completed in the year 2000.

Comment, page 3, "Idaho Rivers United believes that the 'no net increase' policy adopted in the TMDL is inadequate and does not comport with the law or the requirements of the TMDL. Reductions are a necessary element of the TMDL."

DEQ recognizes that the phosphorus allocations presented in the Draft TMDL did not meet the minimum requirements for a TMDL. The allocations have been removed from the document and will be replaced by an application of the state's "no net increase" rule to total phosphorus in the lower Boise River watershed. A schedule change will be put in place to make the nutrient TMDLs for the lower Boise River concurrent with the lower Snake River and Brownlee Reservoir TMDLs.

Comment, page 3, Flow and Habitat Policy. "While flow and habitat alteration cannot be accorded a numeric 'load allocation' they must be fully addressed in the TMDL."

Flow alteration and habitat are not allocatable pollutants under section 303(d) of the Clean Water Act, and cannot be included in TMDLs.

Comment, page 4, Flow and Habitat Guidance Idaho Rivers United presented a number of specific recommendations related to flow and habitat in the lower Boise River, as follows:

- "Developing a percent fines for sediment which is scientifically based to protect fishery habitat, particularly native fish."
- "Promote a more natural flow regime that mimics the hydrograph
- "Slow velocities in the upper degrading reach of the river from Lucky Peak Dam to near Eagle Island.
- "Increase velocities in the agrading reach through flow augmentation"

Noted.

Comment, page 5, Temperature

"Out of stream diversions, coupled with warmed return flows probably have an equal or greater impact than ambient air temperatures, yet no studies, analysis, comparison, or modeling were done."

DEQ included as a part of the Draft Technical Appendices for the TMDL Appendix F, a review and analysis of temperature conditions in the Boise River. The document describes the extensive study, comparison, and analysis of the sources of temperature in the lower Boise River watershed. The analysis uses large daily and hourly data sets for temperature in the Boise River, selected tributaries, wastewater treatment plants, groundwater, and the air to quantify the relative impacts of heat sources. The analysis is empirical, based upon actual data, (rather than modeling or literature) and clearly shows that sunlight and air temperature contribute vastly more heat load to the Boise River than tributary return flows. In addition, the analysis examines the extent to which tributary flows would have to be cooled in order to prevent all temperature criteria exceedences in the Boise River. The magnitude of the cooling of the tributaries is not a feasible change to be made, as one would expect given the facts that the tributary heat loads are very small relative to meteorological inputs, and that the tributaries are sustained by large inflows of cool groundwater. DEQ does not recommend load allocations for temperature in the segments of the lower Boise River that are listed for temperature.

Trout Unlimited, Ted Trueblood Chapter

Comment, Provide more discussion of habitat limitations upon fisheries in the Boise River. "We would like to see more focus and discussion on the limiting factors affecting fish habitat."

The habitat limitations that affect the fisheries in the lower Boise River include lack of access to side channel spawning habitat, lack of cover elements, embedded substrates, and water velocities. Asbridge and Bjornn found that during the summer time, runs are the most abundant habitat type in the Boise River. Cover elements are limited in some portions of the Boise River. The runs often have velocities higher than optimal for trout. The river lacks large roughness elements to create habitat diversity and velocity breaks for trout. In addition, pea gravels and pebbles are not abundant (Asbridge and Bjornn, 1988).

Comment, page 1, "...we believe a lack of suitable spawning and rearing habitat is the limiting factor causing impairment to designated beneficial uses of cold water biota and salmonid spawning."

DEQ concurs and seeks creative ideas from Trout Unlimited about opportunities for creating or improving the habitat in the Boise River. If Trout Unlimited is aware of significant opportunities to expand, improve, or provide better access to side channel spawning habitat, please continue to bring such opportunities forward for development.

Comment, page 2, What rate of participation in voluntary best management practices for agriculture would be necessary to meet TMDL load allocations goals?

The Soil Conservation Commission and Natural Resource Conservation Commission are two agencies that will likely play a significant role in helping DEQ to plan the level of implementation needed to achieve sediment and bacteria reduction goals in the TMDL. The precise amount of acreage that must be treated varies with location, i.e. a smaller number of critical acres can be as effective as a larger number of lower priority acres.

Comment, page 2, "The discussion on 'reasonable assurance' on page 54 states that the TMDL will rely substantially on nonpoint source reductions achieve desired water quality, but if reductions are not achieved through 'existing regulatory and voluntary programs, then reductions must come from point sources.' We would recommend that said existing regulatory and voluntary programs could also be adjusted to be more effective, if necessary."

The language included on page 54 of the Draft TMDL is based upon United States Environmental Protection Agency, Guidance for Water Quality Based Decisions: The

TMDL Process, EPA 440/4-91-001, page 24, "State or Local Process for Nonpoint Sources".

Lower Boise River Watershed Advisory Group

Comment, page 1, "DEQ should defer TMDLs on individual tributaries until the year 2000 and should set the Load Allocations only at the mouths of the tributaries and drains."

Noted

Comment, page 1, "DEQ should adopt the No Net Increase (NNI) approach for phosphorus as an interim measure until the Brownlee TMDL is complete."

DEQ concurs.

Comment, page 1, "DEQ should use a seasonal approach for interim NNI allocations."

Noted. DEQ will develop an appropriate application of the state's "no net increase" rule for the lower Boise River watershed.

Comment, page 1, "Phosphorus data that the WAG has had to work with are less than ideal; the WAG and DEQ should continue to seek ways to improve the database for future decision making."

Noted.

Comment, page 1, "DEQ should include in the TMDL acknowledgment that new bacteria standards need to be adopted, and allowance should be made for this in the implementation plan.

DEQ will include language in the TMDL to specify that the goal of bacteria allocations and waste load allocations is to protect contact recreational uses of the Boise River, using applicable state criteria for bacteria. Should the bacteria criteria change, compliance with the new criteria would still constitute compliance with the TMDL allocations and waste load allocations for bacteria.

Comment, page 1, "DEQ should not establish a TMDL for temperature; but instead, should promptly pursue other regulatory mechanisms such as use attainability analyses, and if appropriate, modified use categories."

DEQ agrees that load and waste load allocations should not be developed for temperature on the two segments of the river listed for temperature, and as such did not develop a TMDL for temperature. DEQ agrees that all regulatory options, such as variances, site specific criteria, seasonal criteria, or alternative designated uses, are

options that can be discussed with respect to temperature in the lower Boise River.

Comment, page 2, "The TMDL documents should recognize that agriculture is not the only source of sediment and bacteria, and that the TMDL has to be fair and equitable."

DEQ recognizes that agriculture is not the only source of sediment and bacteria. The TMDL contains waste load allocations, applied to NPDES permitted facilities, for both of those pollutants. In addition, DEQ recommends that implementation planning for the TMDL evaluate all sources of sediment and bacteria to identify the most effective way in which to meet load allocation goals.

Comment, page 2, "DEQ's approach to the Reserve for Growth for sediment and bacteria allocations is appropriate."

DEQ appreciates the support of the WAG for the sediment reserve for growth applied to NPDES facilities. Please note that no reserve is specified for bacteria.

Comment, page 2, "DEQ should establish a high flow off-ramp for the sediment allocation."

Noted. DEQ does not believe that such an off ramp is necessary at this time.

Comment, page 2, "DEQ's equal percent reduction approach for sediment load allocations is appropriate."

Noted.

Comment, page 2, "The WAG supports DEQ's equal percent reduction approach for sediment load allocations, because it provides incentives for trading markets to develop where conditions warrant."

Noted.

Comment, page 2, "The TMDL should establish that trading is an allowable method to comply with sediment TMDL and phosphorus No Net Increase requirements."

The current scope of effluent trading development is limited to phosphorus as a tradable commodity, but will likely credit phosphorus associated with sediment reductions. Phosphorus allocations have been removed from the TMDL, and trading language related to phosphorus will be developed in documents other than the current lower Boise River TMDL.

Comment, page 2, "The final TMDL should include additional discussion concerning the implementation plan, including functions, scope, roles, time frame, process, and key elements list."

The items described in the WAG comment will be developed in the implementation planning process and will remain separate from the TMDL document.

Comment, page 2, The WAG thanked DEQ staff for effort in preparing the TMDL document.

DEQ appreciates the thanks of the WAG, and extends similar thanks and appreciation to the members of the WAG who gave many hours of their time to the TMDL development process.

Comment, page 2, "The WAG and DEQ have worked diligently to produce a rational TMDL and allocations, and believe that the overall product is reasonably sound."

DEQ concurs.

Comment, page 2, "DEQ should include Eagle Fish Hatchery and Nampa Fish Hatchery as point sources for phosphorus loads because the existing hatchery loads are comparable to small municipal wastewater treatment plants."

The phosphorus load and waste load allocations have been removed from the TMDL. DEQ will develop and appropriate application of the state's "no net increase" rule to total phosphorus in the lower Boise River watershed.

Comment, page 2," DEQ should use the flow-variable Load Capacity approach for the bacteria TMDL."

DEQ agrees, and the Draft TMDL includes a concentration based (flow variable) approach to bacteria load allocations.

Comment, page 2, "DEQ's sediment TMDL has a reasonable scientific basis."

Noted.

Comment, page 2, "DEQ's sediment allocation approaches are fair and rational in how they addressed both point and non-point sources."

Noted.

Comment, page 2, Reasonable assurance, "DEQ should not plan to seek further point source reductions for these parameters because it would not achieve significant overall reductions due to the relatively low contribution from point sources."

The language included on page 54 of the Draft TMDL is based upon United States Environmental Protection Agency, Guidance for Water Quality Based Decisions: The TMDL Process, EPA 440/4-91-001, page 24, "State or Local Process for Nonpoint Sources".

Comment, page 2, "DEQ should move promptly to establish updated and more scientifically defensible bacteria standards."

The development and adoption of new bacteria criteria for the State of Idaho is not a TMDL issue, but rather is a rule making issue.

Denyce M. Verti

Ms. Verti provided a series of comments related to the condition of the river bank and public use of the park located near the Canyon Hill Bridge. Users of the area often throw trash into the Boise River, and leave trash on the banks. In addition, no restroom facilities are available to the swimmers who use the Boise River in that area, which contributes to the degradation of the banks and the river.

DEQ appreciates your suggestions for improving the quality of recreational access to the River near Caldwell.

Idaho Water Users Association

Comments, page 1, related to Sediment Load Allocations, "The sediment TMDL was based on trends and instantaneous information and data." "The information used in setting the standards were not based on Boise River segment assessments but on river segments outside the watershed." "These two items (improper assessment and instantaneous sampling) suggests that these sediment TMDL could be flawed. The information collected for the sediment TMDL has many data gaps and is not biologically or scientifically defensible. The Water Users Association would recommend the sediment TMDL not be implemented until more information is gathered to support the recommendation."

DEQ used TSS criteria that support healthy populations of the cold water fish that are present in the Boise River to develop load allocations for suspended sediment and solids. The load allocations are based upon sound assessment, data, and analysis.

Comments, page 2, Bacteria, "A more comprehensive testing program involving DNA E. Coli should be done before implementation of the bacteria TMDL. The Idaho Water Users Association recommends that the bacteria TMDL not be implemented until duration testing and E. Coli information is gained to find the source of the bacteria.

DEQ will incorporate language in the TMDL to specify that compliance with the bacteria load and waste load allocations should be judged based upon the most current state criteria for contact recreation. The lower Boise River Watershed advisory group has agreed to a pilot test of DNA typing for sources of bacteria that should help to direct implementation activities.

Comment, pages 2 and 3, Phosphorus TMDL. "It seems unusual that a no net increase of phosphorus is being set for the Boise River when there have been no violations or any impairment of designated uses." "Idaho Water Users Association would suggest further testing and monitoring before a no net gain in phosphorus is set for the Boise River."

The phosphorus load and waste load allocations have been removed from the TMDL document.

Comment, page 3, Temperature. "Idaho Water Users Association agrees with DEQ that a temperature TMDL should not be recommended for the lower Boise River."

Noted. DEQ does not recommend temperature load or waste load allocations for the two segments of the Boise River that are listed for temperature.

Comment, page 3, Improper Designated Uses. "Idaho Water Users Association recommends that a reassessment of designated uses for salmonid spawning and cold water biota be done." "If man-made solutions cannot change the temperature then salmonid spawning and cold water biota are not the proper designations for the lower Boise River."

Temperature criteria are only one element of the cold water biota and salmonid spawning use designations on the lower Boise River. DEQ reiterates that cold water biota and salmonid spawning are existing uses in the lower Boise River from Lucky Peak to the confluence with the Snake River.

Collected Comments, Nampa and Meridian Irrigation District, Pioneer Irrigation District, Middleton Irrigation District, Drainage District No. 2, Boise Valley Irrigation Ditch Company, Farmers Union Canal Company, City of Eagle, City of Middleton, City of Notus, City of Star, Star Sewer and Water District, Idaho Water Users Association.

Comment, page 6, regarding dams, water diversion and drainage systems, and flood control practices: "DEQ should remove from the P.A. the assertions that these systems are causes of impairment to be addressed through implementation of a TMDL."

Noted.

Comment, pave 9, "Without further definition of the distribution and abundance of cold water species in the lower Boise River, the cold water biota designation does not accurately define existing or attainable species, distribution and abundance of fish, and cannot define proper water quality goals or provide a basis for determining whether fish are fully supported. The P.A. should, therefore, define the distribution and abundance of the cold water species DEQ has determined exist or are attainable in the Lower Boise River."

DEQ has effectively described the distribution and presence of cold water species, both fish and benthic macroinvertebrates, in the lower Boise River.

Recommendations Regarding assessment of the nature and extent of uses of the Lower Boise River segments and the "tributaries", page 11 of comments
DEQ should:

1. "Clearly define the fish species, distribution, and abundance that exists or is attainable in the Lower Boise River segments for purposes of assessing impairment and setting objectives for a TMDL;
2. Identify the reference stream of conditions, if any, that are used in defining the nature and extent of aquatic life uses to be attained;
3. If the nature and extent of aquatic life uses to be attained cannot be defined, postpone implementation of a TMDL to address aquatic life until necessary monitoring, analysis, and reference stream identification can be performed;
4. Include in the discussion of the 'tributaries' in Appendix B of the P.A. DEQ's findings/recommendations regarding appropriate uses of the District's drains; and,
5. Perform UAA or take other necessary action to remove recreational and aquatic life use designation from the drains, or at least the portions for which such designations are clearly inappropriate."

These comments all relate to use designations and stream classification, which are rule making issues, rather than load allocations issues.

"Recommendations regarding use assessments"
DEQ should:

"At a minimum, the P.A. should clearly identify, explain, and justify the reference streams or conditions used to assess waters. ...This analysis is necessary to evaluate DEQ's assertions about use status, impairment, the causes of impairment, the validity and potential results of reducing loads to proposed levels, the ultimate objectives of the TMDL, and the costs and benefits of the TMDL effort."

Use status, impairments, the causes of impairment, and load reductions required are all clearly and appropriately described by the TMDL.

Recommendations regarding sediment, page 24 of comments
DEQ should:

1. "reconsider its assessment that suspended sediment impairs aquatic life in all or most stream segments of the Lower Boise River;
2. Perform additional surveys of embeddedness and reevaluate prior results;
3. Determine the extent to which habitat improvements can be achieved through suspended sediment reductions given the armoring of the substrate throughout the Lower Boise River;
4. Through fish sampling and analysis, determine the actual extent to which fish are adversely affected by suspended sediment in the water column;
5. Evaluate bank erosion and other, non-discharge related sources of sediment to determine the extent to which discharges contribute suspended sediment to the Boise River and the extent to which a TMDL can be effective in reducing such concentrations;
6. If appropriate after further monitoring and analysis, delist the Lower Boise River segments for impairment due to sediment;
7. Change the priority status of the Lower Boise River segments from high to medium insofar as sediment is concerned;
8. Determine whether existing, available, and cost-effective control measures will be effective in reducing suspended sediment to levels before implementing a TMDL; and,
9. Delay issuance of a final problem assessment and implementation of a TMDL for sediment until sufficient monitoring and analysis is performed to assess the impacts of sediment on aquatic life, or issue an informational TMDL so that such monitoring and analysis and interim control measures can be implemented and evaluate

DEQ's assessment of sediment conditions in the river is accurate and appropriate for the development of load and waste load allocations. DEQ will not change the priority of listed Boise River segments. The TMDL specifies necessary sediment load reductions. Methods for achieving the allocations will be developed in the implementation plan that follows the TMDL. The lower Boise River TMDL is due at the end of calendar year

1998, and sediment allocations cannot be delayed.

Conclusions and recommendations regarding nutrients, page 29 of comments
DEQ should:

1. Include in the P.A. a discussion of relative costs and benefits anticipated from a nutrient TMDL in light of scientific literature indicating that phosphorus levels cannot be reduced to a level which limits aquatic plant growth in most stream environments;
2. Remove from the P.A. the speculation that aquatic plant growth could, in drought years, impair recreation and aquatic life uses or support that speculation with valid data and analysis, including identification of an appropriate reference stream or conditions;
3. Remove from the P.A. the discussion of conditions at Brownlee Reservoir as a justifications for implementing a TMDL on the Boise River or provide an adequate factual and legal justification for implementing a TMDL on the Boise River to address conditions in Brownlee Reservoir;
4. Delist the Star to Notus and the Notus to Snake River segments in the final 1998 303(d) list for impairment due to nutrients;
5. Delete the high priority status of the lower Boise River segments insofar as nutrients are concerned; and,

not implement a TMDL for nutrients."

Load and waste load allocations for total phosphorus have been removed from the TMDL, and will be developed concurrently with nutrient TMDLs for the lower Snake River and Brownlee Reservoir.

Recommendations regarding bacteria, page 32 of comments
DEQ should:

1. "Modify the Draft Problem Assessment and Appendix B to either justify reliance on 'estimated measurements' or remove such measurement from consideration for support status determinations;
2. Remove anomalies from consideration for support status determinations;
3. Remove bacteria measurements over five years old from consideration for support status determinations;
4. Correct the assessment of the Star to Notus segment to show that recreational uses are fully supported and reconsider the impairment assessment of the Notus to Parma segment;
5. Delist the Star to Notus segment and possibly the Notus to Snake River segment in the final 1998 303(d) list for recreational use impairment due to bacteria;
6. Change the priority status of the Lower Boise River segments from high to medium insofar as bacteria is concerned;
7. Delay issuance of a final problem assessment and TMDL for bacteria until the E Coli criteria is adopted and sufficient monitoring and DNA analysis can be performed to determine

E Coli levels and sources, or issue and informational TMDL so that such monitoring and analysis and interim measures can be implemented and evaluated."

DEQ has developed appropriate load and waste load allocations for bacteria, including language recognizing the potential adoption of E. Coli criteria in the future. The load and waste load allocations for bacteria cannot be delayed, and are included in the TMDL.

Recommendations regarding temperature, page 34 of comments
DEQ should:

1. "Remove from the P.A. and its appendices all characterizations of water temperature as a pollutant or as a cause of impairment of aquatic life;
2. Delist the Star to Notus and Notus to Snake River segments in the final 1998 303(d) list for aquatic life use impairment due to temperature;
3. Clarify in the P.A. and in all future 305(b) reports that the cold water biota designation for the Star to Snake River segments pertains only to mountain whitefish and only during the fall and winter and, therefore, the cold water biota designation applies to these segment only during the fall and winter, or provide in the P.A. the data and analysis which shows that mountain whitefish or other cold water biota are present in these segments during the summer to justify continuing the cold water biota designation through the entire year;
4. If appropriate to account for the presence of mountain whitefish, re-designate the Star to Snake River segments for cool water biota and apply cool water standards as soon as such designations and criteria are adopted in Idaho's water quality standards."

DEQ has accurately and appropriately analyzed temperature in the lower Boise River. DEQ has determined that load and waste load allocations for temperature are not appropriate for the listed segments of the lower Boise River. The appropriate approach to temperature criteria for the lower Boise River will be developed.